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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,953	06/20/2003	Pieter Kruit	3531P008X	9491

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EXAMINER
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LEYBOURNE, JAMES J

ART UNIT	PAPER NUMBER
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2881

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/600,953	KRUIT, PIETER	
	<b>Examiner</b>	<b>Art Unit</b>	
	James J. Leybourne	2881	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 5, 6, 16, 20 and 22 is/are allowed.
- 6) ☒ Claim(s) 2-4, 7-15, 17-19, 21 and 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/12/2004</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. The disclosure is objected to because of the following informalities:

In claim 5, line 8; "focusing said focusing said" is redundant. The second "focusing said" should be deleted.

In claims 7 and 8, line 1, "claim 5" should be --claim 7--.

In claim 13, line 4, "light source" should be --light source or sources--because in line 2, the claim cites "at least one light source" indicating that there may be a plurality of sources.

In claim 19, line 1, "claim 18" should be --claim 17--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2-4, 7-15, 17-19, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 2-4, 7-15, 17 and 21, the phrase "preferably" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claims 18 and 19 are indefinite because of their dependency on claim 17.

Regarding claim 21, the phrase "especially" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps because no steps are listed. Attempts to claim a process without setting forth any steps involved in the process generally raises an issue of indefiniteness under 35 U.S.C. 112, second paragraph. See MPEP § 2173.05(q).

#### ***Allowable Subject Matter***

4. Claims 1, 5, 6, 16, 20 and 22 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding independent claim 1, the prior art fails to disclose or make obvious a lithography system comprising:  
  
means for generating a plurality of light beamlets that are used to illuminate an electron source comprising a plurality of converter elements to generate corresponding electron beamlets and control means for matching the mutual positions of the light beamlets with respect to the mutual positions of the electron beamlets.

The prior art discloses using light beamlets focused on an un-patterned photo cathode to generate electron beamlets. The prior art also discloses using a uniform illumination beam directed onto a patterned photo cathode to generate electron beamlets, (a photo cathode comprising a plurality of converter elements).

The main feature that separates the apparatus apart from prior art is the uses of a plurality of light beams focused onto a patterned photo cathode and a control means to match the corresponding light beamlets to the photo cathode converter elements.

Claims 5, 6, 16, 20 and 22 are allowed by virtue of their dependency on claim 1.

Claims 2-4, 7-15, 17-19, 21 and 23 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 2-4, 7-15, 17-19, 21 and 23 would be allowable by virtue of their dependency on claim 1.

### ***Conclusion***

### ***Relevant Prior Art***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mankos et al. (USPN 6724002) discloses optical beamlets used to generate electron beams using a non-patterned photocathode.

Brandes et al. (EP 0605964) teach using a patterned photocathode illuminated by uniform light to generate a patterned electron image.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to James J. Leybourne whose telephone number is (571) 272-2478. The examiner can normally be reached on M-F 9:00- 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on (571) 272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 14, 2004

JJL

  
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SUPERVISOR, PATENT EXAMINER  
TECHNICAL CENTER 2000